



# Annual Water Quality Report

Water testing performed in 2014

FIND OUT MORE ABOUT  
YOUR WATER DISTRICT:  
[www.ParadiseIrrigation.com](http://www.ParadiseIrrigation.com)

Your water—  
Clean. Fresh. Pure.

*Paradise Irrigation District*

6332 CLARK ROAD PARADISE, CA 95969 530/877-4971

*Learn about  
our community's  
great water!*

*Este informe contiene información muy  
importante sobre su agua potable.  
Traduzcalo, o hable con alguien que lo  
entienda bien.*

*We're proud to present our annual water quality report covering all testing performed  
between Jan. 1 and Dec. 31, 2014, or earlier.*

*At Paradise Irrigation District we're committed to delivering the best-quality drinking  
water possible. We remain vigilant in meeting the challenges of new regulations, water  
source protection, water conservation and community outreach and education while  
continuing to serve the needs of our water users.*

*Thank you for allowing us to continue providing you and your family with high quality  
drinking water.*

*Please share your thoughts with us on the information in this report. And, if you have any  
questions or concerns, we're here to help. Call George Barber at 530/877-4971.*

Paradise Irrigation District

**Our water.**   
*Save it for* **Our future.**

**DISCOVER IDEAS AND TIPS TO SAVE WATER TODAY!**  
[www.ParadiseSavesWater.com](http://www.ParadiseSavesWater.com)

# Where does my water come from?

Customers of the Paradise Irrigation District are fortunate because we enjoy a high-quality water supply from the Little Butte Creek Watershed.

The PID treatment plant draws water from Magalia Reservoir and Paradise Lake, which hold a total of 12,293 acre-feet of water. Runoff is collected over 11.2 square miles of watershed located north and east of Magalia Reservoir. This watershed is heavily forested and sparsely populated, which contributes to the high-quality water we serve. The water treatment plant was constructed in 1995 and provides an average flow of 7.5 million gallons per day.

The District drilled and developed a ground water source at the D Tank site. This well produces up to 450 gallons per minute (gpm) and is used as a drought management and emergency source. This source was used 302 days in 2014 and pumped 231 acre feet of water. Water quality testing has been done to qualify it as an approved source.

At the treatment plant, located just below Magalia Reservoir, the water is initially processed by adding coagulants to small particles (turbidity) in the raw water. The particles pass through a bed of granulated media and most of them are removed in up-flow clarifiers.

Clarified water then flows downward through gravity filters featuring three different materials (anthracite, sand and fine garnet) to remove remaining particulates (turbidity) well below the regulatory requirement. After the gravity filters, the water is routed through a treated water storage tank to provide sufficient contact time for chlorine to disinfect the treated water.

Potable water flows then, by gravity, through a 42-inch pipeline to reach our customers via the district's delivery system of pipelines, pumps and tanks.

## ***Health information for medically-vulnerable residents***

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers.

The US EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791 or <http://water.epa.gov/drink/hotline>.



*Visit*  
**PARADISE LAKE**

**FISHING BOATING HIKING**  
PARADISE IRRIGATION DISTRICT  
VISITPARADISELAKE.COM – LAKE CLOSED WEDNESDAYS

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PICTURESQUE FOR PARTIES & WEDDINGS: 873-1040

*UNDER SPECIAL USE PERMIT WITH THE FOREST SERVICE*

## ***PID resources to help you:***

Do you have questions about the water you drink and use? You don't have to go to a huge utility company to get the answers you need—Paradise Irrigation District is a public agency. It is operated to benefit water consumers in our area and governed by local people you've elected.

Unlike privately-owned utility companies, PID makes all of its decisions right here in our community.

PID actively seeks citizen input and has a variety of free resources listed below to help you. For more information, call 877-4971 or go to [ParadiseIrrigation.com](http://ParadiseIrrigation.com)

- Monitor your water use and receive leak alerts with AquaHawk alerting
- Online bill payment
- Monthly newsletters
- [VisitParadiseLake.com](http://VisitParadiseLake.com)
- [ParadiseSavesWater.com](http://ParadiseSavesWater.com)

## Substances that could be in drinking water...

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of plants, animals or from human activity.

To make sure our tap water is safe to drink, the U.S. Environmental Protection Agency (US EPA) and the State Water Resources Control Board (State Board) prescribe regulations limiting the amount of certain contaminants in water provided by public water systems. State Board regulations also establish limits for contaminants in bottled water that must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk.

Contaminants that may be present in source water include:



**Microbial Contaminants**, such as viruses and bacteria, that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife;

**Inorganic Contaminants**, such as salts and metals, that can be naturally occurring or can result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming;

**Pesticides and Herbicides**, that may come from a variety of sources, such as agriculture, urban stormwater runoff, and residential uses;

**Organic Chemical Contaminants**, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production and which can also come from gas stations, urban stormwater runoff, agricultural applications, and septic systems;

**Radioactive Contaminants**, that can be naturally occurring or can be the result of oil and gas production and mining activities.

More information about contaminants and potential health effects can be obtained by calling the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

## Lead and copper and your drinking water

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead and copper in drinking water is primarily from the corrosion of materials and components associated with service lines and home plumbing. We are responsible for providing high-quality drinking water but cannot control the variety of materials used in home plumbing components.

When your water has been sitting for several hours, you can minimize the potential for lead and copper exposure by flushing your tap briefly before using water for drinking or cooking. If you are concerned about lead and/or copper in your water, you may wish to have your water tested. Information on lead and copper in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or a Quick Reference Guide at [www.epa.gov/ogwdw/lcrrm/pdfs/qrg\\_lcrrm\\_2004.pdf](http://www.epa.gov/ogwdw/lcrrm/pdfs/qrg_lcrrm_2004.pdf).

### DEFINITIONS USED IN THIS REPORT:

**AL (Regulatory Action Level)**: Concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

**µS/cm (microsiemens per centimeter)**: A unit expressing the amount of electrical conductivity of a solution.

**MCL (Maximum Contaminant Level)**: The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible. Secondary MCLs (SMCLs) are set to protect the odor, taste and appearance of drinking water.

**MCLG (Maximum Contaminant Level Goal)**: The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the USEPA.

**MFL (million fibers per liter)**: A measure of the presence of asbestos fibers that are longer than 10 micrometers.

**MRDL (Maximum Residual Disinfectant Level)**: The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

**MRDLG (Maximum Residual Disinfectant Level Goal)**: The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

**NA**: Not applicable.

**ND (Not detected)**: The substance was not found by laboratory analysis.

## Source Water Assessment available at office

PID's 2011 Source Water Assessment is available at our office for your review. This is an assessment of the area of influence around our listed "raw" water sources through which contaminants, if present, could reach our source water. It also includes an inventory of potential sources of contamination within the area and a determination of the water supply's susceptibility to contamination by the identified potential sources including:

**Ground Water Supply (Well at D Tank)**: High-density septic systems and automobile repair shops.

**Surface Water Supply (Little Butte Creek Watershed)**: High-density septic systems and historic mining operations.

*A copy of the complete assessment may be viewed at State Water Resources Control Board (State Board) Valley District Office, 364 Knollcrest Drive, Suite 101, Redding, CA 96002, Attention: Reese Crenshaw, (530) 224-4861, or at the Paradise Irrigation District Office, 6332 Clark Road, Paradise, CA 95969, Attention: George Barber, (530) 877-4971.*

**NS**: No standard.

**NTU (Nephelometric Turbidity Units)**: Measurement of the clarity/cloudiness—or turbidity—of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

**PDWS (Primary Drinking Water Standard)**: MCLs and MRDLs for contaminants that affect health, along with their monitoring and reporting requirements and water treatment requirements.

**PHG (Public Health Goal)**: The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California EPA.

**TT (Treatment Technique)**: A required process intended to reduce the level of a contaminant in drinking water.

## Sampling results

Paradise Irrigation District has taken thousands of regulated and unregulated water samples during the past years to determine the presence of any radioactive, biological, inorganic, volatile and synthetic organic contaminants and monitor the treatment process. The tables below show only those contaminants that were detected in the water. The State Water Resources Control Board (State Board) requires us to monitor for certain substances less than once per year because the concentrations of these substances do not change significantly. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

### REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	VIOLATION?	MCL (MRDL)	PHG (MCLG) [MRDLG]	Surface Water Supply		Groundwater Supply		TYPICAL SOURCE
					AVERAGE DETECTED	RANGE LOW-HIGH	AVERAGE DETECTED	RANGE LOW-HIGH	
Chlorine (ppm)	2014	No	4 (TT)	4	0.9	0.6–1.3	NA	NA	Drinking water disinfectant added for treatment.
Fluoride	2014	No	2	1	ND	ND	<0.1	NA	Erosion of natural deposits.
Haloacetic Acids (ppb)	2014	No	60	NA	20	16-29	NA	NA	Byproduct of drinking water disinfection.
THMs (Total Trihalomethanes) (ppb)	2014	No	80	NA	23	15-31	NA	NA	Byproduct of drinking water disinfection.
Turbidity <sup>1</sup> (NTU)	2014	No	(TT)	NA	0.04	0.03–0.06	NA	NA	Soil run-off.
Nitrate as NO <sub>3</sub> (ppm)	2014	No	45	45	ND	ND	1	NA	Septic systems, fertilizer use.
Gross Alpha (pCi/L)	2006/2008	No	15	0	<3.0	NA	<3.0	NA	Erosion of natural deposits
Radium 228 (pCi/L)	2006/2008	No	5	0.019	0.5	NA	0.1	NA	Erosion of natural deposits

<sup>1</sup> Turbidity is a measure of water's cloudiness. Indicator of our filtration system's effectiveness (TT – treatment technique).

### LEAD & COPPER ANALYSES

Tap water samples were collected from sample sites throughout the community (lead was not detected at the 90th percentile).

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	VIOLATION?	AL	PHG (MCLG)	AMOUNT DETECTED (90 <sup>TH</sup> %TILE)	SITES ABOVE AL/ TOTAL SITES	TYPICAL SOURCE
Copper (ppm)	2014	No	1.3	0.3	0.26	0/30	Internal corrosion of household plumbing.
Lead (ppb)	2014	No	15	0.2	0.0	0/30	Internal corrosion of household plumbing.

### SECONDARY SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	VIOLATION?	SMCL	PHG (MCLG)	Surface Water Supply		Groundwater Supply		TYPICAL SOURCE
					AVERAGE DETECTED	RANGE LOW-HIGH	AVERAGE DETECTED	RANGE LOW-HIGH	
Chloride (ppm)	2011	No	500	NS	3	NA	NA	NA	Run-off/leaching from natural deposits; seawater influence.
Sulfate (ppm)	2014	No	500	NS	2	NA	NA	NA	Run-off/leaching from natural deposits; industrial wastes.
Total Dissolved Solids (ppm)	2011	No	1,000	NS	40	NA	142	NA	Run-off/leaching from natural deposits.
Zinc (ppm)	2014	No	5	NS	0.3	NA	ND	NA	Run-off/leaching from natural deposits; industrial wastes.

### UNREGULATED AND OTHER SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	Surface Water Supply		Groundwater Supply		TYPICAL SOURCE
		AVERAGE DETECTED	RANGE LOW-HIGH	AVERAGE DETECTED	RANGE LOW-HIGH	
Boron (ppb)	2002	NA	NA	156	100-213	Run-off/leaching from natural deposits; seawater influence
Chromium 6 (ppb)	2014	.13	NA	3.4	NA	Naturally-occurring organic materials.
Sodium (ppb)	2014	1.9	NA	5.1	NA	Naturally-occurring salt present in the water.
Hardness (ppb)	2014	28	NA	76	NA	Naturally-occurring magnesium and calcium present in the water.

#### UNITS WE USED FOR MEASUREMENT:

**ppm (parts per million):** One part substance per million parts water (or milligrams per liter). Imagine one ping-pong ball in an Olympic-sized swimming pool.

**ppb (parts per billion):** One part substance per billion parts water (or micrograms per liter). Imagine one ping pong ball in 1,000 Olympic-sized swimming pools.

**pCi/L (pico curries per liter):** A measurement of radioactivity.



For more information about this report—or for answers to questions about your drinking water—call the PID Water Treatment Plant at 530/877-3554.